



OICE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/022,390

DATE: 02/05/2002

TIME: 13:02:32

Input Set : N:\jumbos\022390

Output Set: N:\CRF3\02052002\J022390.raw

ENTERED

3 <110> APPLICANT: Vega, Manuel
 4 Drittanti, Lila
 5 Flaux, Marjorie
 7 <120> TITLE OF INVENTION: MUTANT RECOMBINANT ADENO-ASSOCIATED VIRUSES
 9 <130> FILE REFERENCE: 37851-912
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/022,390
 C--> 12 <141> CURRENT FILING DATE: 2001-12-17
 14 <150> PRIOR APPLICATION NUMBER: 60/315,382
 15 <151> PRIOR FILING DATE: 2001-08-27
 18 <160> NUMBER OF SEQ ID NOS: 735
 20 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 22 <210> SEQ ID NO: 1
 23 <211> LENGTH: 621
 24 <212> TYPE: PRT
 25 <213> ORGANISM: Artificial Sequence
 27 <220> FEATURE:
 28 <223> OTHER INFORMATION: Mutant rep protein: rep78 4 GCT
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 32 1 5 10 15
 33 Glu His Leu Pro Gly Ile Ser Asp Ser Phe Val Asn Trp Val Ala Glu
 34 20 25 30
 35 Lys Glu Trp Glu Leu Pro Pro Asp Ser Asp Met Asp Leu Asn Leu Ile
 36 35 40 45
 37 Glu Gln Ala Pro Leu Thr Val Ala Glu Lys Leu Gln Arg Asp Phe Leu
 38 50 55 60
 39 Thr Glu Trp Arg Arg Val Ser Lys Ala Pro Glu Ala Leu Phe Phe Val
 40 65 70 75 80
 41 Gln Phe Glu Lys Gly Glu Ser Tyr Phe His Met His Val Leu Val Glu
 42 85 90 95
 43 Thr Thr Gly Val Lys Ser Met Val Leu Gly Arg Phe Leu Ser Gln Ile
 44 100 105 110
 45 Arg Glu Lys Leu Ile Gln Arg Ile Tyr Arg Gly Ile Glu Pro Thr Leu
 46 115 120 125
 47 Pro Asn Trp Phe Ala Val Thr Lys Thr Arg Asn Gly Ala Gly Gly Gly
 48 130 135 140
 49 Asn Lys Val Val Asp Glu Cys Tyr Ile Pro Asn Tyr Leu Leu Pro Lys
 50 145 150 155 160
 51 Thr Gln Pro Glu Leu Gln Trp Ala Trp Thr Asn Met Glu Gln Tyr Leu
 52 165 170 175
 53 Ser Ala Cys Leu Asn Leu Thr Glu Arg Lys Arg Leu Val Ala Gln His
 54 180 185 190
 55 Leu Thr His Val Ser Gln Thr Gln Glu Gln Asn Lys Glu Asn Gln Asn

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56		195		200		205											
57	Pro	Asn	Ser	Asp	Ala	Pro	Val	Ile	Arg	Ser	Lys	Thr	Ser	Ala	Arg	Tyr	
58		210					215					220					
59	Met	Glu	Leu	Val	Gly	Trp	Leu	Val	Asp	Lys	Gly	Ile	Thr	Ser	Glu	Lys	
60	225					230					235					240	
61	Gln	Trp	Ile	Gln	Glu	Asp	Gln	Ala	Ser	Tyr	Ile	Ser	Phe	Asn	Ala	Ala	
62					245					250					255		
63	Ser	Asn	Ser	Arg	Ser	Gln	Ile	Lys	Ala	Ala	Leu	Asp	Asn	Ala	Gly	Lys	
64				260					265					270			
65	Ile	Met	Ser	Leu	Thr	Lys	Thr	Ala	Pro	Asp	Tyr	Leu	Val	Gly	Gln	Gln	
66			275					280					285				
67	Pro	Val	Glu	Asp	Ile	Ser	Ser	Asn	Arg	Ile	Tyr	Lys	Ile	Leu	Glu	Leu	
68		290					295					300					
69	Asn	Gly	Tyr	Asp	Pro	Gln	Tyr	Ala	Ala	Ser	Val	Phe	Leu	Gly	Trp	Ala	
70	305					310					315					320	
71	Thr	Lys	Lys	Phe	Gly	Lys	Arg	Asn	Thr	Ile	Trp	Leu	Phe	Gly	Pro	Ala	
72				325						330					335		
73	Thr	Thr	Gly	Lys	Thr	Asn	Ile	Ala	Glu	Ala	Ile	Ala	His	Thr	Val	Pro	
74				340					345					350			
75	Phe	Tyr	Gly	Cys	Val	Asn	Trp	Thr	Asn	Glu	Asn	Phe	Pro	Phe	Asn	Asp	
76			355					360					365				
77	Cys	Val	Asp	Lys	Met	Val	Ile	Trp	Trp	Glu	Glu	Gly	Lys	Met	Thr	Ala	
78		370					375					380					
79	Lys	Val	Val	Glu	Ser	Ala	Lys	Ala	Ile	Leu	Gly	Gly	Ser	Lys	Val	Arg	
80	385					390					395					400	
81	Val	Asp	Gln	Lys	Cys	Lys	Ser	Ser	Ala	Gln	Ile	Asp	Pro	Thr	Pro	Val	
82				405						410					415		
83	Ile	Val	Thr	Ser	Asn	Thr	Asn	Met	Cys	Ala	Val	Ile	Asp	Gly	Asn	Ser	
84				420					425					430			
85	Thr	Thr	Phe	Glu	His	Gln	Gln	Pro	Leu	Gln	Asp	Arg	Met	Phe	Lys	Phe	
86			435					440					445				
87	Glu	Leu	Thr	Arg	Arg	Leu	Asp	His	Asp	Phe	Gly	Lys	Val	Thr	Lys	Gln	
88		450					455					460					
89	Glu	Val	Lys	Asp	Phe	Phe	Arg	Trp	Ala	Lys	Asp	His	Val	Val	Glu	Val	
90	465					470					475					480	
91	Glu	His	Glu	Phe	Tyr	Val	Lys	Lys	Gly	Gly	Ala	Lys	Lys	Arg	Pro	Ala	
92				485						490					495		
93	Pro	Ser	Asp	Ala	Asp	Ile	Ser	Glu	Pro	Lys	Arg	Val	Arg	Glu	Ser	Val	
94				500					505					510			
95	Ala	Gln	Pro	Ser	Thr	Ser	Asp	Ala	Glu	Ala	Ser	Ile	Asn	Tyr	Ala	Asp	
96			515					520					525				
97	Arg	Tyr	Gln	Asn	Lys	Cys	Ser	Arg	His	Val	Gly	Met	Asn	Leu	Met	Leu	
98		530					535					540					
99	Phe	Pro	Cys	Arg	Gln	Cys	Glu	Arg	Met	Asn	Gln	Asn	Ser	Asn	Ile	Cys	
100	545				550					555						560	
101	Phe	Thr	His	Gly	Gln	Lys	Asp	Cys	Leu	Glu	Cys	Phe	Pro	Val	Ser	Glu	
102					565					570					575		
103	Ser	Gln	Pro	Val	Ser	Val	Val	Lys	Lys	Ala	Tyr	Gln	Lys	Leu	Cys	Tyr	
104				580					585					590			

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105 Ile His His Ile Met Gly Lys Val Pro Asp Ala Cys Thr Ala Cys Asp
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107 Leu Val Asn Val Asp Leu Asp Asp Cys Ile Phe Glu Gln
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110 <210> SEQ ID NO: 2
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112 <212> TYPE: PRT
113 <213> ORGANISM: Artificial Sequence
115 <220> FEATURE:
116 <223> OTHER INFORMATION: Mutant rep protein: rep68 4 GCT
118 <400> SEQUENCE: 2
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120 1           5                      10                      15
121 Glu His Leu Pro Gly Ile Ser Asp Ser Phe Val Asn Trp Val Ala Glu
122           20                      25                      30
123 Lys Glu Trp Glu Leu Pro Pro Asp Ser Asp Met Asp Leu Asn Leu Ile
124           35                      40                      45
125 Glu Gln Ala Pro Leu Thr Val Ala Glu Lys Leu Gln Arg Asp Phe Leu
126           50                      55                      60
127 Thr Glu Trp Arg Arg Val Ser Lys Ala Pro Glu Ala Leu Phe Phe Val
128 65          70                      75                      80
129 Gln Phe Glu Lys Gly Glu Ser Tyr Phe His Met His Val Leu Val Glu
130           85                      90                      95
131 Thr Thr Gly Val Lys Ser Met Val Leu Gly Arg Phe Leu Ser Gln Ile
132           100                     105                     110
133 Arg Glu Lys Leu Ile Gln Arg Ile Tyr Arg Gly Ile Glu Pro Thr Leu
134           115                     120                     125
135 Pro Asn Trp Phe Ala Val Thr Lys Thr Arg Asn Gly Ala Gly Gly Gly
136           130                     135                     140
137 Asn Lys Val Val Asp Glu Cys Tyr Ile Pro Asn Tyr Leu Leu Pro Lys
138 145          150                     155                     160
139 Thr Gln Pro Glu Leu Gln Trp Ala Trp Thr Asn Met Glu Gln Tyr Leu
140           165                     170                     175
141 Ser Ala Cys Leu Asn Leu Thr Glu Arg Lys Arg Leu Val Ala Gln His
142           180                     185                     190
143 Leu Thr His Val Ser Gln Thr Gln Glu Gln Asn Lys Glu Asn Gln Asn
144           195                     200                     205
145 Pro Asn Ser Asp Ala Pro Val Ile Arg Ser Lys Thr Ser Ala Arg Tyr
146           210                     215                     220
147 Met Glu Leu Val Gly Trp Leu Val Asp Lys Gly Ile Thr Ser Glu Lys
148 225          230                     235                     240
149 Gln Trp Ile Gln Glu Asp Gln Ala Ser Tyr Ile Ser Phe Asn Ala Ala
150           245                     250                     255
151 Ser Asn Ser Arg Ser Gln Ile Lys Ala Ala Leu Asp Asn Ala Gly Lys
152           260                     265                     270
153 Ile Met Ser Leu Thr Lys Thr Ala Pro Asp Tyr Leu Val Gly Gln Gln
154           275                     280                     285
155 Pro Val Glu Asp Ile Ser Ser Asn Arg Ile Tyr Lys Ile Leu Glu Leu
156           290                     295                     300

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157 Asn Gly Tyr Asp Pro Gln Tyr Ala Ala Ser Val Phe Leu Gly Trp Ala
158 305                      310                      315                      320
159 Thr Lys Lys Phe Gly Lys Arg Asn Thr Ile Trp Leu Phe Gly Pro Ala
160                      325                      330                      335
161 Thr Thr Gly Lys Thr Asn Ile Ala Glu Ala Ile Ala His Thr Val Pro
162                      340                      345                      350
163 Phe Tyr Gly Cys Val Asn Trp Thr Asn Glu Asn Phe Pro Phe Asn Asp
164                      355                      360                      365
165 Cys Val Asp Lys Met Val Ile Trp Trp Glu Glu Gly Lys Met Thr Ala
166 370                      375                      380
167 Lys Val Val Glu Ser Ala Lys Ala Ile Leu Gly Gly Ser Lys Val Arg
168 385                      390                      395                      400
169 Val Asp Gln Lys Cys Lys Ser Ser Ala Gln Ile Asp Pro Thr Pro Val
170                      405                      410                      415
171 Ile Val Thr Ser Asn Thr Asn Met Cys Ala Val Ile Asp Gly Asn Ser
172                      420                      425                      430
173 Thr Thr Phe Glu His Gln Gln Pro Leu Gln Asp Arg Met Phe Lys Phe
174                      435                      440                      445
175 Glu Leu Thr Arg Arg Leu Asp His Asp Phe Gly Lys Val Thr Lys Gln
176 450                      455                      460
177 Glu Val Lys Asp Phe Phe Arg Trp Ala Lys Asp His Val Val Glu Val
178 465                      470                      475                      480
179 Glu His Glu Phe Tyr Val Lys Lys Gly Gly Ala Lys Lys Arg Pro Ala
180                      485                      490                      495
181 Pro Ser Asp Ala Asp Ile Ser Glu Pro Lys Arg Val Arg Glu Ser Val
182                      500                      505                      510
183 Ala Gln Pro Ser Thr Ser Asp Ala Glu Ala Ser Ile Asn Tyr Ala Asp
184                      515                      520                      525
185 Arg Leu Ala Arg Gly His Ser Leu
186 530                      535
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189 <211> LENGTH: 621
190 <212> TYPE: PRT
191 <213> ORGANISM: Artificial Sequence
193 <220> FEATURE:
194 <223> OTHER INFORMATION: Mutant rep protein: rep78 10 GCG
196 <400> SEQUENCE: 3
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198 1                      5                      10                      15
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200                      20                      25                      30
201 Lys Glu Trp Glu Leu Pro Pro Asp Ser Asp Met Asp Leu Asn Leu Ile
202                      35                      40                      45
203 Glu Gln Ala Pro Leu Thr Val Ala Glu Lys Leu Gln Arg Asp Phe Leu
204 50                      55                      60
205 Thr Glu Trp Arg Arg Val Ser Lys Ala Pro Glu Ala Leu Phe Phe Val
206 65                      70                      75                      80
207 Gln Phe Glu Lys Gly Glu Ser Tyr Phe His Met His Val Leu Val Glu
208                      85                      90                      95

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```

209 Thr Thr Gly Val Lys Ser Met Val Leu Gly Arg Phe Leu Ser Gln Ile
210      100      105      110
211 Arg Glu Lys Leu Ile Gln Arg Ile Tyr Arg Gly Ile Glu Pro Thr Leu
212      115      120      125
213 Pro Asn Trp Phe Ala Val Thr Lys Thr Arg Asn Gly Ala Gly Gly Gly
214      130      135      140
215 Asn Lys Val Val Asp Glu Cys Tyr Ile Pro Asn Tyr Leu Leu Pro Lys
216 145      150      155      160
217 Thr Gln Pro Glu Leu Gln Trp Ala Trp Thr Asn Met Glu Gln Tyr Leu
218      165      170      175
219 Ser Ala Cys Leu Asn Leu Thr Glu Arg Lys Arg Leu Val Ala Gln His
220      180      185      190
221 Leu Thr His Val Ser Gln Thr Gln Glu Gln Asn Lys Glu Asn Gln Asn
222      195      200      205
223 Pro Asn Ser Asp Ala Pro Val Ile Arg Ser Lys Thr Ser Ala Arg Tyr
224      210      215      220
225 Met Glu Leu Val Gly Trp Leu Val Asp Lys Gly Ile Thr Ser Glu Lys
226 225      230      235      240
227 Gln Trp Ile Gln Glu Asp Gln Ala Ser Tyr Ile Ser Phe Asn Ala Ala
228      245      250      255
229 Ser Asn Ser Arg Ser Gln Ile Lys Ala Ala Leu Asp Asn Ala Gly Lys
230      260      265      270
231 Ile Met Ser Leu Thr Lys Thr Ala Pro Asp Tyr Leu Val Gly Gln Gln
232      275      280      285
233 Pro Val Glu Asp Ile Ser Ser Asn Arg Ile Tyr Lys Ile Leu Glu Leu
234      290      295      300
235 Asn Gly Tyr Asp Pro Gln Tyr Ala Ala Ser Val Phe Leu Gly Trp Ala
236 305      310      315      320
237 Thr Lys Lys Phe Gly Lys Arg Asn Thr Ile Trp Leu Phe Gly Pro Ala
238      325      330      335
239 Thr Thr Gly Lys Thr Asn Ile Ala Glu Ala Ile Ala His Thr Val Pro
240      340      345      350
241 Phe Tyr Gly Cys Val Asn Trp Thr Asn Glu Asn Phe Pro Phe Asn Asp
242      355      360      365
243 Cys Val Asp Lys Met Val Ile Trp Trp Glu Glu Gly Lys Met Thr Ala
244      370      375      380
245 Lys Val Val Glu Ser Ala Lys Ala Ile Leu Gly Gly Ser Lys Val Arg
246 385      390      395      400
247 Val Asp Gln Lys Cys Lys Ser Ser Ala Gln Ile Asp Pro Thr Pro Val
248      405      410      415
249 Ile Val Thr Ser Asn Thr Asn Met Cys Ala Val Ile Asp Gly Asn Ser
250      420      425      430
251 Thr Thr Phe Glu His Gln Gln Pro Leu Gln Asp Arg Met Phe Lys Phe
252      435      440      445
253 Glu Leu Thr Arg Arg Leu Asp His Asp Phe Gly Lys Val Thr Lys Gln
254      450      455      460
255 Glu Val Lys Asp Phe Phe Arg Trp Ala Lys Asp His Val Val Glu Val
256 465      470      475      480
257 Glu His Glu Phe Tyr Val Lys Lys Gly Gly Ala Lys Lys Arg Pro Ala

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VERIFICATION SUMMARY

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Input Set : N:\jumbos\022390

Output Set: N:\CRF3\02052002\J022390.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application Number
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date